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1 Vehicle Safety Device

2

3 The present invention relates to a vehicle safety device,  
4 suitable for improving the personal safety of a person in  
5 a vehicle.

6

7 Passenger safety requirements in vehicles have become  
8 more stringent and people in general have become more  
9 safety conscious. In most cases when transporting young  
10 people, particularly young children in cars, a separate  
11 seat is included to lift the child up above the level of  
12 the seat of the car.

13

14 Such devices come in two main types. Firstly, a car seat  
15 is provided for very young children. In the case of very  
16 young children, greater support is required and larger  
17 seats are provided. These car seats include a lower base  
18 portion and an upper portion which supports the back and  
19 neck of the child. The entire structure is designed to  
20 be placed on the existing back seat of the car and to be  
21 strapped in to the back seat using the existing seat  
22 belt.

23

1 Whilst such seats are ideal for extremely young children,  
2 they take up a large amount of space in the back seat of  
3 a car and where the child is old enough to sit up in the  
4 back seat of the car, this type of car seat can make it  
5 very difficult for others to use the back seat.

6  
7 In addition, it is time consuming to install and remove  
8 car seats of this type. The need to install and remove  
9 car seats of this type is more pressing where alternative  
10 uses for the back seat of the car are routinely required.

11  
12 Secondly, there is a 'booster' seat which is designed for  
13 use by older children and which consists of a seat base  
14 which is placed on the back seat of the car such that  
15 when the child sits on the seat base, they are lifted up  
16 to a level such that the seat belt provided in the car  
17 should hold the child at the level of the shoulders.  
18 Clearly, a belt that extended across the neck of a child  
19 could be extremely dangerous were the car to stop  
20 suddenly and instead of being an additional safety  
21 feature of the car, could possibly lead to injury or even  
22 strangulation.

23  
24 In addition, many older children stop using booster seats  
25 before they are physically big enough to sit in the back  
26 seat of a car with the seat belt in the correct position.  
27 This also leads to a situation where the belt extends  
28 across the neck of the child.

29  
30 It is an object of the present invention to provide an  
31 improved vehicle safety device that overcomes the above  
32 problems.

33

1 In accordance with a first aspect of the present  
2 invention there is provided a vehicle safety device  
3 wearable on the torso of a person, the device comprising:  
4 a body section having a front portion and a back portion,  
5 the front portion having attachment means adapted to  
6 receive a vehicle seat belt such that when worn, the seat  
7 belt can be removeably connected to the garment by the  
8 attachment means so as to secure the seat belt to the  
9 body of the garment.

10

11 Preferably, the attachment means comprises a releasable  
12 clip.

13

14 Preferably, the attachment means comprises a fabric strap  
15 removeably connected to the body of the device through  
16 eyelets formed in the body of the device..

17

18 Preferably, the attachment means is fixedly connected to  
19 the body of the device.

20

21 The attachment means may be stitched to the body of the  
22 device.

23

24 Preferably, the body of the device is made from fabric.

25

26 Optionally, the body of the device is made from  
27 strengthened synthetic fabric.

28

29 Preferably, the body of the device is sleeveless.

30

31 Preferably, the front portion of the body and the back  
32 portion of the body are formed in a single piece.

33

1 Preferably, the front portion of the body and the back  
2 portion of the body are fixedly connected at the shoulder  
3 only.

4  
5 Preferably, the front portion and back portion of the  
6 device are removably attached down the side of the body  
7 of the device below the position of the arm holes by  
8 release means.

9  
10 Preferably, the release means comprises a releasable  
11 clip.

12  
13 Preferably, the release means comprises velcro<sup>TM</sup> which  
14 extends at least in part up the side of the device to the  
15 position below the position of the arm holes.

16  
17 Preferably, the attachment means are provided on the  
18 device such that a seat belt can pass below the  
19 attachment means.

20  
21 Preferably, a plurality of attachment means are  
22 positioned on the jacket to accommodate the diagonally  
23 extending strap of a seat belt.

24  
25 Preferably, at least one attachment means is positioned  
26 at or near the shoulder of the body of the device so as  
27 to, in use, guide the diagonal strap of the belt away  
28 from the neck or face of the user.

29  
30 Preferably, the device is a jacket, having a central zip  
31 or buttons for opening and closing the jacket.

32

1 The present invention will now be described by way of  
2 example only with reference to the accompanying drawings  
3 in which:

4

5 Fig. 1 shows a first embodiment of the present invention;

6

7 Fig. 2 shows the first embodiment of the present  
8 invention with a seat belt attached thereto;

9

10 Fig. 3 shows a second embodiment of the present invention  
11 with a seat belt attached thereto;

12

13 Fig. 4 shows a third embodiment of the present invention  
14 with a seat belt attached thereto; and

15

16 Fig. 5 shows a fourth embodiment of the present invention  
17 with a seat belt attached thereto.

18

19 Fig. 1 shows a garment or jacket 1 made from a strong,  
20 light weight material having attachment means formed by  
21 straps 3 located on the shoulder section of the jacket  
22 and across the body of the jacket on either side of the  
23 jacket. The attachment means 3 are positioned such that  
24 a seat belt can be threaded through the attachment means  
25 when in use. A zip 21 is provided for fastening the  
26 jacket at the front. Alternatively, buttons or any other  
27 suitable fastener might be used.

28

29 In this example, the attachment means comprise releasable  
30 clips with a male portion 17 and female portion 19.

31 Releasable clips of this type are well known in the art.

32 The attachment means 3 are connected to the jacket by  
33 means of eyelets 11 which are being cut through the

1 fabric of the jacket and which have been strengthened by  
2 metal washers provided at the circumference of the eyelet  
3 11.

4

5 Jackets containing eyelets 11 allow the straps 3 to be  
6 easily removed from the body of the jacket and allow the  
7 straps to be repositioned on the inside of the jacket in  
8 order to make the jacket reversible.

9

10 Fig. 2 shows the jacket 1 with the diagonally extending  
11 strap 27 of a seat belt attached to the jacket. As can  
12 be seen, the seat belt strap 27 is passed below each of  
13 the attachment means 3 and the attachment means 3 is  
14 clipped together using the connector 17 and 19 to prevent  
15 easy removal of the strap 27.

16

17 The provision of two attachment means 3, one at or near  
18 the shoulder of the jacket and one below and diagonally  
19 across the front of the jacket, provides two positions at  
20 which the diagonal strap of a seat belt is supported and  
21 attached to the jacket. This provides a more secure and  
22 stable attachment to the jacket than would be provided if  
23 the seat belt was connected to the jacket at a single  
24 position. The horizontal strap of the seat belt can sit  
25 over the jacket in the usual way.

26

27 Fig. 3 shows a second embodiment of the present invention  
28 substantially identical to the first embodiment except  
29 that the side of the jacket 33 is openable and is  
30 provided with Velcro™ sections connected to opposing  
31 surfaces of the front and back portions of the jacket at  
32 the open sides 33. As is apparent this jacket is  
33 sleeveless and providing open sides that extend from the

1 bottom of the jacket to the arm holes 23 allows the  
2 jacket to be removed by detaching the Velcro™ pieces  
3 contained on opposing front and back portions of the  
4 jacket 33. This allows the jacket to be removed over the  
5 head of the user extremely easily in case of emergency in  
6 a single movement.

7  
8 A further embodiment of the jacket has sleeves and is  
9 substantially identical to the jacket shown in figure 3  
10 except that the lower half of the sleeve also includes a  
11 Velcro™ section to allow easy removal of the jacket.

12  
13 Whilst Velcro™ is used in the above embodiments, other  
14 fastening means may be used which allow easy removal of  
15 the jacket in emergencies.

16  
17 Fig. 4 shows a third embodiment of the present invention  
18 with attachment means 103, positioned diagonally across  
19 the jacket. In this example, a different releasable clip  
20 is used and the attachment means on the upper portions of  
21 the jacket are not situated on the shoulder itself, but  
22 below the shoulder. In some cases, it is more  
23 comfortable to have the seat belt attached below the  
24 shoulder. In addition, attachment means 103 are sown  
25 into the fabric of the jacket in this example.

26  
27 The attachment means 3, 103 shown in figures 1 to 5  
28 function to be releasably attachable. Any type of  
29 attachment means that is releasably attachable would be  
30 suitable for use with the present invention. The  
31 attachment means may be a clip, lockable safety clip or  
32 buckle.

33

1 As in the previous embodiment of the present invention,  
2 the open sides of the jacket are provided with the  
3 attachment means which in this case are also constructed  
4 from Velcro™.

5  
6 Fig. 5 shows a further embodiment of the present  
7 invention in which the attachment means at the open sides  
8 of the jacket are made using releasable clips. Other  
9 mechanisms may be used that allow quick release of the  
10 jacket in emergencies.

11  
12 The invention may be designed to look like a football  
13 strip or incorporate a design associated with a cartoon  
14 character or the like so as to make the device more  
15 attractive to the wearer.

16  
17 The present invention is intended for use by child  
18 passengers in a motor vehicle such as a car, a bus or the  
19 like. The invention is also suitable for use by  
20 handicapped or autistic people of any age or by those  
21 suffering from dementia.

22  
23 The present invention is designed to function in place of  
24 a traditional car seat but advantageously, used up much  
25 less space in the rear of a car.

26  
27 In addition, the jacket prevents rubbing or chaffing that  
28 can be caused when a seat belt "rides up" as occurs where  
29 a seat belt is used without the present invention.

30  
31 Improvements and modifications may be incorporated herein  
32 without deviating from the scope of the invention.